

## Information and Knowledge Acquisition → The Feedback Loops

- Patient Dialogue Engine: Individualized Communication
  - Generated using Information and Knowledge Base
  - Interface with Rendering Engine
  - Feedback to Information Base
- Care Management Engine: Just-in-time Care
  - Generated using Information and Knowledge Base
  - Feedback to DSTs
- Research Engine: Real-time Research
  - Interface to Information Base [extract existing data]
  - Interface to Dialogue Engine [when new data is required]
  - Feedback to Knowledge Base [new discoveries]

**FIG. 24**

# Health Hero Network

## Contribution to Innovations

### Current Status                      New Innovations

#### Patient Dialogue Engine

- Pre-packaged, mass customized programs
- Content libraries
- Health Buddy



- Automated individualization
- Content generated by knowledge base rules applied to information base
- Interface to Rendering Engine for any device

#### Care Management Engine

- Risk stratification
- Organizational workflow and efficiency tools
- Manual feedback process



- Intelligent risk tuning and link to DSTs
- Organizational optimization
- Automated feedback loop

#### Research Engine

- Data Export to SAS

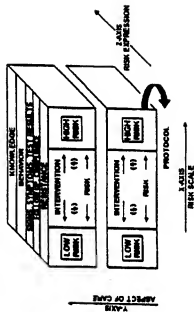


- Identify subgroups and correlations
- Test hypotheses on living database

**FIG. 25**

# Integrating Feedback Loops Within MedKnowledgeMent

- Application Program Interfaces
- Standards for Data Classification
- Ontology for Information and Knowledge Used in Feedback Process



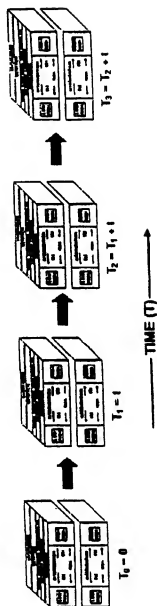
A 3-DIMENSIONAL MODEL OF DISEASE

FIG. 26

# Feedback Process

Overall goal is apply and generate medical knowledge in a continuous process that leads to lowest achievable risk resulting in:

- Higher quality of life
- Improved clinical outcomes
- Lower cost of care



**FIG. 27**

## Expected Results

- Reduced emergency department encounters and hospitalizations by detecting patient problems before they become a crisis.
- Improved patient compliance by educating, motivating and monitoring health status and by providing personalized and relevant information.
- Improved safety and quality of care by providing timely and actionable information to healthcare professionals through quality assured processes that can be continuously improved.
- Continuity of care, particularly for the elderly, through integrated, interconnected monitoring and information systems, rather than fragmented, episodic, and crisis driven care.

**FIG. 28**